

REMARKS

This application has been carefully reviewed in light of the Office Action dated August 27, 2007. Claims 1 to 22 remain in the application, of which Claims 1, 9, 12 and 20 are independent. Reconsideration and further examination are respectfully requested.

Applicants wish to thank the Examiner for the indication that Claims 8 and 19 would be allowable if rewritten into independent form. Applicants have chosen not to rewrite Claims 8 and 19 into independent form at this time since it is believed their base claims are allowable for at least the reasons set forth below.

Claims 1 to 7, 9 to 18 and 20 to 22 have been rejected under 35 U.S.C. § 102(e) over U.S. Publication No. 2005/0237928 (Le Scolan). Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention concerns the synchronization of basic (backbone) network nodes for the transmission of a data stream. The invention aims to ensure that at a receiving node, data can be extracted from the backbone packets and provided to an application (upper layer) in the form of packets of a first type, whereas the packets are encapsulated for transmission over the backbone network in packets of a second type. The size of the packets of the second type are independent from the size of the packets of the first type, except for the creation of the synchronization packet, which is a packet of the second type. Thus, the invention allows the destination node of the backbone network to be synchronized with a data stream, when the entry node providing the data stream on the backbone network forms backbone network packets for which the beginning of the payload does not match the beginning of the packets generated by the original source

device. This is achieved by adapting the entry node so that, on the occurrence of a predetermined event, it (1) forms a synchronization packet of the second type such that the beginning of the useful information of the synchronization packet corresponds to the beginning of a packet of the first type, (2) inserts a synchronization marker in the second synchronization packet, and then (3) modifies the size of a packet of the second type preceding the synchronization packet such that the end of the useful information of the packet of the second type corresponds to the end of a packet of the first type.

Referring specifically to the claims, Claim 1 is directed to a method for the insertion of information to synchronize a destination node with a data stream transmitted from an entry terminal in a heterogeneous network, the heterogeneous network including at least one sub-network conveying packets of a first type and one basic network conveying packets of a second type, the entry terminal being connected to the sub-network, the sub-network being connected to the basic network by means of an entry node forming the packets of the second type from at least one sub-part of at least one packet of the first type, wherein the size of the useful information of packets of the second type is independent of the size of packets of the first type, wherein, at the occurrence of at least one predetermined event, the entry node, forms a synchronization packet of the second type such that the beginning of useful information of the synchronization packet corresponds to the beginning of the packet of the first type, inserts a synchronization marker in the synchronization packet; and modifies the size of a packet of the second type preceding the synchronization packet such that the end of the useful information of the packet of the second type corresponds to the end of a packet of the first type.

Claim 12 is an apparatus claim that substantially corresponds to Claim 1.

Claim 9 is a method for the processing of information for the synchronizing of a destination node with a data stream transmitted from an entry terminal in a heterogeneous network, the heterogeneous network including at least one sub-network conveying packets of a first type and a basic network conveying packets of a second type, the sub-network being connected to the basic network by means of a destination node, wherein the size of useful information of packets of the second type is independent of the size of packets of the first type, wherein the destination node, detects a synchronization packet of the second type among the packets of the second type conveyed by the basic network by means of a synchronization marker contained in the synchronization packet of the second type, forms a synchronization packet of the first type from at least one synchronization packet of the second type, such that the beginning of the synchronization packet of the first type corresponds to the beginning of useful information of the synchronization packet of the second type, and transfers the synchronization packet of the first type to the sub-network.

Claim 20 is an apparatus claim that substantially corresponds to Claim 9.

The applied art of Le Scolan is not seen to teach the features of the invention. In particular, with regard to Claims 1 and 12Le Scolan is not seen to teach the features of forming a synchronization packet of a second type such that the beginning of useful information of the synchronization packet corresponds to the beginning of a packet of the first type, inserting a synchronization marker in the synchronization packet, and modifying the size of a packet of the second type preceding the synchronization packet such that the end of the useful information of the packet of the second type corresponds to the end of a packet of the first type.

Le Scolan deals with the synchronization of clocks of cycle master nodes of buses connected by a backbone network. Each bus has a cycle master node, which is in charge of generating the bus clock cycles. The purpose is to ensure that there is no clock drift in between the clock domains, so that 1) there is no cycle on the destination bus without any data packet to be transmitted for a given stream, and 2) there is no cycle on the destination bus with more than one data packet to be transmitted for a given stream (in IEEE 1394 bridging, one data packet is to be transmitted per bus cycle for a given stream). In case 1), this would mean that the data packets would incur a one-cycle delay, which could make the data packet expired. For case 2), this would mean that data packets would not be transmitted to the destination bus (discarded). This issue is well-known by those skilled in the art of network bridges and particularly in the bridging of IEEE 1394 buses for transmission of isochronous data. Thus, Le Scolan is not seen to teach the features of forming a synchronization packet of a second type such that the beginning of useful information of the synchronization packet corresponds to the beginning of a packet of the first type, inserting a synchronization marker in the synchronization packet, and modifying the size of a packet of the second type preceding the synchronization packet such that the end of the useful information of the packet of the second type corresponds to the end of a packet of the first type.

It should also be noted that, since Le Scolan focuses on the clock synchronization in between interconnected buses, which is not stream dependent (contrary to the present invention), there is no explanation in Le Scolan as to how IEEE 1394 data stream packets (known as isochronous data in IEEE 1394 terminology) are transmitted in

radio frames. While payload/useful data of radio frames is mentioned at paragraph 196 of Le Scolan, the formation of the stream is not described.

Additionally, Le Scolan is not seen to teach the features of independent claims 9 and 20. Specifically, Le Scolan is not seen to teach a step or means of detecting a second synchronization packet by a synchronization marker contained in it, nor step or means of forming a synchronization packet of a first type from at least one synchronization packet of the second type, such that the beginning of the synchronization packet of the first type corresponds to the beginning of the useful information of the synchronization packet of the second type.

In view of the foregoing, all of Claims 1 to 22 are believed to be allowable and are not believed to be anticipated by Le Scolan.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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